

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES COMPANY	)	
FOR A CERTIFICATE OF CONVENIENCE AND	)	CASE NO.
NECESSITY TO CONSTRUCT A SCRUBBER ON UNIT	)	92-005
NO. 1 OF ITS GHENT GENERATING STATION	)	

O R D E R

IT IS ORDERED that the Kentucky Utilities Company ("KU") shall file an original and 15 copies of the following information with this Commission, with a copy to all parties of record. Each copy of the data requested should be placed in a bound volume with each item tabbed. When a number of sheets are required for an item, each sheet should be appropriately indexed, for example, Item 1(a), Sheet 2 of 6. Include with each response the name of the witness who will be responsible for responding to questions relating to the information provided. Careful attention should be given to copied material to ensure that it is legible. Where information requested herein has been provided along with the original application, in the format requested herein, reference may be made to the specific location of said information in responding to this information request. When applicable, the information requested herein should be provided for total company operations and jurisdictional operations, separately. The information requested herein is due no later than March 6, 1992. If the information cannot be provided by this date, you should submit

a motion for an extension of time stating the reason a delay is necessary and include a date by which it will be furnished. Such motion will be considered by the Commission.

1. Prepare a timetable showing when KU plans to request permit modifications from appropriate agencies. The timetable should indicate when KU plans to request the permit modification and when KU expects to receive a response to its request. For each modification requested, include a brief description of the modification.

2. Throughout this proceeding, provide copies of any applications requesting permit modifications, copies of any inquiries made by the approving authorities, copies of the responses to the requests, and copies of the final decision by the authorities. This ongoing request also applies to any new permits KU discovers that it will be required to secure.

3. Prepare a detailed schedule showing the estimated costs of constructing the scrubber at Ghent 1, including all related support facilities. This schedule should be itemized, showing the individual components which will be constructed. Include the costs of engineering and development work which KU plans to capitalize as part of this project. Also provide copies of bid tabulations and proposals from the vendors furnishing bids for the construction.

4. Provide complete details including all underlying calculations and assumptions used to determine the increase in

annual operating costs of \$9 million, referred to in Item 6 of the application and referenced in Mr. Tipton's testimony at page 3.

5. Provide a list of all vendors from which KU solicited bids for the proposed construction. Indicate the vendors from whom responses were received.

6. Provide a copy of the RFP or bid solicitation issued to vendors for the Ghent 1 scrubber.

7. Provide a copy of the studies performed by Sargent and Lundy Engineers and the Radian Corporation on the design specifications for the scrubber retrofit on Ghent 1.

8. Provide an analysis of any income tax benefits which KU will realize through the construction of a scrubber at Ghent 1.

9. Provide an analysis of the cost of purchasing, installing, operating, and maintaining the continuous emission monitoring system throughout KU's system.

10. With regard to the discussion on page i-3 of the application, explain the details of the Clean Air Act with regard to the two year extension of compliance for units that use certain control technologies to meet their Phase I reduction requirements. State whether KU is eligible to receive this extension, and if so, what effect this will have on the plan to add the proposed facilities by December 1994.

11. With reference to the discussion on page i-9, identify the model which KU will utilize in future analysis to determine

whether to fuel switch, purchase allowances, and/or sell allowances based on the market value of the sulfur dioxide allowances.

12. Explain the effect of the addition of the scrubber at Ghent 1 on the available energy from the unit. Explain how the loss of available energy was taken into consideration in the determination of the present value revenue requirements ("PVRR") for each of the compliance options.

13. Application Exhibit No. 4, the Appendix entitled "KU's Optimal Compliance Plan Analysis" contains details of the PROSCREEN modeling performed by KU for Phase I and II compliance. On pages 38 and 49, KU shows the results for nine Phase I compliance plans. Provide the following information for each of the nine Phase I compliance plans:

a. The yearly PVRR for each plan. Plans 1, 3, and 6 are already provided on page 52.

b. Indicate the discount rate used to determine the PVRR. Include the calculations and assumptions used to arrive at the discount rate utilized.

c. Indicate how much of the PVRR amounts shown on pages 38 and 49 relate to the construction outlined in the compliance plan. In other words, show the PVRR amounts for each plan without the inclusion of the Generation Expansion Plan, which is referenced in Appendix A to the Optimal Compliance Plan Analysis.

d. For each component listed in a compliance plan, identify the costs associated with the component that were included in the PROSCREEN model. This would include not only the estimated costs of the various scrubbers, but also the estimated costs to fuel switch and limit tonnage at various locations.

14. Exhibits 2 through 5 of the Optimal Compliance Plan Analysis contain 19 Phase II compliance plans. Provide the following information for each of the 19 Phase II plans:

a. Indicate the cumulative PVRR amounts.

b. Indicate the discount rate used in the PVRR determination. Include the calculations and assumptions used to arrive at the discount rate utilized.

c. Indicate the cumulative PVRR amounts without the inclusion of the Generation Expansion Plan.

15. Provide a detailed explanation concerning the risks KU perceives from the "philosophy of banking allowances" which is mentioned on page 37 of the Optimal Compliance Plan Analysis.

16. Concerning the comparison of Plans 6 and 7 on page 48 of the Optimal Compliance Plan Analysis, provide an expanded explanation of why Plan 6 is the optimal fuel switch choice.

17. Appendix A of the Optimal Compliance Plan Analysis includes Table 3, which presents the scrubber cost data used in the studies. Provide an update to this Table, reflecting information KU has received from the bidding of the proposed Ghent 1 scrubber.

18. Provide the cumulative PVRR values for Plans 1 through 9 reflecting the cost data KU has received from its bidding of the proposed Ghent 1 scrubber.

19. KU's 5-year financial forecast estimated that approximately 72 percent of the system construction expenditures will be funded from internal sources. Explain whether that same percentage would hold true for the construction expenditures envisioned under the Optimal Phase I Compliance Plan No. 1.

20. Concerning Hewett Exhibit 1, provide the following information:

a. Identify the capital structure used at the beginning of the 5-year forecast. Include both the dollar amounts and percentages. Also, explain how the beginning capital structure was determined.

b. Identify the cost rates used at the beginning of the 5-year forecast for debt, preferred stock, and common equity. Explain how the beginning cost rates were determined.

c. Identify the sources of information used to determine the capital structure and cost rates used in the 5-year forecast.

d. Indicate KU's actual Kentucky jurisdictional capital structure as of December 31, 1991. Include both the dollar amounts and percentages.

e. Indicate KU's actual cost rates for debt and preferred stock as of December 31, 1991. Also include the rate of

return earned on common equity as of December 31, 1991.

f. For each year of the 5-year forecast, indicate the year end capital structure and cost rates.

21. Concerning Hewett Exhibit 1, provide a description of the sources of funds identified as "Internal Sources." For each year shown on Hewett Exhibit 1, break down the Internal Sources funding into its component parts.

22. Page 3 of Mr. Hewett's testimony discusses two rate cases projected during the 5-year financial forecast. Provide the following information:

a. Indicate the capital structure and cost rates used in the forecast for each projected rate case.

b. Indicate the jurisdictional rate base for KU used in the forecast for each projected rate case.

c. Indicate the level of construction work in progress included in each projected rate case.

23. Concerning the 5-year financial forecast, provide paper copies of the computer output generated by the financial forecast.

24. During Mr. Hawley's testimony at the formal conference on February 13, 1992, he stated that in the preparation of this case, KU did not prepare or run a PROSCREEN scenario that considered co-firing or switching a generating plant to natural gas (see Transcript, page 67). Provide a detailed explanation as to why KU did not model such an option through PROSCREEN.

25. Concerning KU's engineering contract for the design and construction of the Ghent 1 scrubber, provide the following information:

a. Indicate the total cost of the contract.

b. Indicate what the total termination charges would be if KU was not awarded a certificate to construct the scrubber. Explain the conditions contained in the contract's termination clause.

c. Explain the provision in this contract dealing with the possible construction of a scrubber at Ghent 2. Include all details of the option, the cost of this option, and the potential savings to KU if the option was invoked.

26. Provide a detailed explanation of how KU plans to dispose of the by-products which result from the scrubbing of Ghent 1. Indicate whether KU has evaluated the marketability of any of the expected by-products.

27. Provide a listing of all input assumptions and variables used in the PROSCREEN modeling for this case. Indicate whether the source of the assumption or variable was provided by KU, a research organization, the developers of PROSCREEN, or other information source. Also, if KU developed the assumption or variable, explain how KU determined the item.

28. Compare and contrast the input assumptions and variables identified in the previous question with those used in the PROSCREEN modeling for the combustion turbine certificate case,



Case No. 91-115,<sup>1</sup> and the integrated resource planning case, October 14, 1991 filing, Case No. 91-365.<sup>2</sup> For each instance where the assumption or variable is different, provide a detailed explanation as to what the change was and why it was necessary.

29. Provide a listing of all input assumptions and variables used in the 5-year financial forecast, Hewett Exhibit 1. Indicate whether the source of the assumption or variable was provided by KU, a research organization, the developers of the forecast model, or other information source. Identify the developer of the forecast model. Also, if KU developed the assumption or variable, explain how KU determined the item.

30. Provide one copy of the PROSCREEN computer output for Plans 1, 3, and 6 as shown on pages 38 and 49 of the Optimal Compliance Plan Analysis.

31. On page VIII-15 it is stated that the fuel switching of the Ghent 1 unit to compliance coal would require the replacement (full upgrade) of the unit's electrostatic precipitator at an estimated capital investment of \$27 million (1991 dollars). Explain how the \$27 million was derived and provide all supporting calculations.

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<sup>1</sup> Case No. 91-115, Application of Kentucky Utilities Company for a Certificate of Convenience and Necessity and a Certificate of Environmental Compatibility to Construct Four 75 Megawatt Combustion Turbine Peaking Units and Associated Facilities Scheduled for Completion in 1994 and 1995, Respectively, to be Located at the Company's E. W. Brown Generating Station in Mercer County, Kentucky.

<sup>2</sup> Case No. 91-365, A Review Pursuant to 807 KAR 5:058 of the 1991 Integrated Resource Plan of Kentucky Utilities Company.

32. Page 6, lines 7 through 10, of the testimony of witness James Tipton refers to KU's analysis of fuel switching based on the current coal market forecasts of Data Resources, Inc. ("DRI").

a. An abbreviated fuel forecast summary is included in Appendix A to KU's Optimal Compliance Plan Analysis. Is this summary based on DRI's forecasts?

b. What is the base year for this fuel forecast?

c. Is it correct that KU applied DRI's escalation factors to KU's current fuel costs to derive the forecasted fuel costs shown in Appendix A?

d. Did KU make any comparison of its fuel forecast with other forecasts such as the DOE/EIA Annual Energy Outlook? If yes, provide the results of such comparisons.

e. Provide the entire fuel forecast for the 30-year study period.

33. At the conference of February 13, 1992, Mr. Hawley indicated that the recent combustion turbine certificate case, the original Integrated Resource Plan ("IRP") and this application were sister cases of the same vintage with the same basic data base. Mr. Hawley also indicated that a new base case would be developed by the end of March that would be a sister case to the updated IRP.

a. Will the new base case reflect the same lower projected fuel costs included in the updated IRP?

b. Identify and explain the reasons for the projected fuel costs being lower in the updated IRP than in the three first-vintage sister cases.

c. Given the timing of this application and the updated IRP, explain why this application does not include the same lower fuel costs as the IRP update.

34. The first year included in the fuel forecast in Appendix A to KU's Optimal Compliance Plan Analysis is 1991.

a. A review of the Form B Reports filed with the Commission for 1991 in support of KU's monthly fuel adjustment calculations shows that 1991 actual fuel costs were generally less than the forecast amounts shown in Appendix A. What impact would substituting actual 1991 fuel costs for 1991 forecasted fuel costs have on the results of KU's Revenue Requirements Comparison on Table 42 of the compliance plan analysis?

b. Does KU intend to reflect its actual 1991 fuel costs as the base year costs for the fuel forecast included in the new base case due for completion by the end of March?

c. KU's fuel costs were essentially flat from January 1991 through December 1991. How would KU factor this experience into its fuel forecast?

Done at Frankfort, Kentucky, this 25th day of February, 1992.

PUBLIC SERVICE COMMISSION

  
For the Commission

ATTEST:

  
Executive Director